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John F. Gibbs

Todd G. Hartman

THE REGULATION OF CONVERGENCE TECHNOLOGIES: AN ARGUMENT FOR TECHNOLOGICALLY SENSITIVE REGULATION

John F. Gibbs[†]
Todd G. Hartman[††]

I. INTRODUCTION

At nearly every level of telecommunications regulation, heated battles are being conducted over the question of how to regulate convergence technologies.[1] At the Federal Communications

† John Gibbs graduated from William Mitchell College of Law in 1982. Currently, he is a partner at Robins, Kaplan, Miller & Ciresi L.L.P. Mr. Gibbs practices in the area of Communications and Government Relations.

†† Todd Hartman graduated from Harvard Law School in 1993. Mr. Hartman is an associate at Robins, Kaplan, Miller & Ciresi L.L.P. He practices in the areas of Communications and Science & Technology.

1. "Convergence" is a term that has been used in varying telecommunications contexts to refer to the increasing ability of distinct communications technologies to provide functionally equivalent services. *E.g.*, William T. Lake et al., *Overview of Telecommunications Convergence*, 597 PRAC. L. INST./PATS., COPYRIGHTS, TRADEMARKS, AND LITERARY HANDBOOK SERIES (PLI/PAT) 9, 11 (Mar. 2000); Marc S. Berger, *Keeping Pace With the Expanding Internet: Can the Courts Keep Up?*, 9 ALB. L. J. SCI. & TECH. 51, 65-66 (1998). For purposes of this paper, the most useful defini-

Commission (FCC), the Minnesota Legislature, the Minnesota Public Utilities Commission (PUC), and throughout the country, the recent ability of cable, wireless and telephony technology to each provide the same or similar services previously provided by the others has fueled countless proceedings over how to regulate such new service delivery or technologies, as well as attempts to readdress entire regulatory regimes. The most prominent example of this phenomenon is the ongoing nationwide debate over how to regulate cable Internet service. Indeed, the amount of political and regulatory attention being absorbed by this issue is nothing short of astounding. Already, the question of how cable Internet service should be regulated has been addressed in no less than eight FCC proceedings,[2] six federal court cases,[3] countless state and local regulatory proceedings and innumerable studies.[4] With two PUC

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tion is the more generic one found in the FCC Glossary, which provides that "convergence means that providers of communications systems can deliver products and services that compete with the products and services now delivered by other networks." PUB. SERV. DIV., FED. COMMS. COMM'N, A GLOSSARY OF TELECOMMUNICATIONS TERMS 8 (1998) [hereinafter PUB. SERV. DIV.]. As demonstrated below, this understanding of convergence as the ability to provide an existing service using a new technology highlights the relevance of past experiences with new technologies to the current convergence debate. *See infra*, Part I.

2. *E.g.*, *In re* Time Warner, Inc., No. 01-12, 2001 WL 55636 (Fed. Comms. Comm'n Jan. 11, 2001); *In re* MediaOne Group, Inc., 15 F.C.C.R. 9816 (2000); *In re* Internet Ventures, Inc., 15 F.C.C.R. 3247 (2000); *In re* Tele-Communications, Inc., 14 F.C.C.R. 3160 (1999); *In re* Deployment of Advanced Communications Capability Pursuant to Section 706 of the Telecommunications Act of 1996, No. 00-290, 2000 WL 1199533 (Fed. Comms. Comm'n Aug. 3, 2000) (second report); *In re* High-Speed Access to the Internet, 15 F.C.C.R. 19,287 (2000) (notice of inquiry); Deployment of Advanced Communications Capability Pursuant to Section 706 of the Telecommunications Act of 1996, 14 F.C.C.R. 2398 (1999) (first report); Local Competition and Broadband Reporting, 64 Fed. Reg. 59, 719-02 (Fed. Comms. Comm'n Nov. 3, 1999) (notice of proposed rulemaking).

3. *E.g.*, AT&T Corp. v. City of Portland, 216 F.3d 871, 871 (9th Cir. 2000); Gulf Power Co. v. FCC, 208 F.3d 1263, 1263 (11th Cir. 2000); MediaOne Group, Inc. v. County of Henrico, 97 F. Supp. 2d 712 (E.D. Va. 2000); Comcast Cablevision of Broward County, Inc. v. Broward County, 124 F. Supp. 2d 685, 685 (S.D. Fla. 2000); Verizon Internet Solutions v. Cox Comms., No. 00-CV-2289 (S.D. Cal. filed Nov. 16, 2000); Arthur Simon v. AT&T, No. 99-11641 RSWL (RCx) (D.C. Cal. filed Dec. 30, 1999).

4. *E.g.*, BARBARA ESPIN, INTERNET OVER CABLE: DEFINING THE FUTURE IN TERMS OF THE PAST, (Office of Plans and Policy, Fed. Comms. Comm'n, Working Paper No. 30, 1998); DAVID B. KOPEL, HEARTLAND INST., ACCESS TO THE INTERNET: REGULATION OR MARKETS? (1999); DEBORAH A. LATHEN, CABLE SERV. BUREAU, FED. COMMS. COMM'N, BROADBAND TODAY (1999); CITY OF LOS ANGELES, BROADBAND ACCESS REPORT (1999); GEN. ACCOUNTING OFFICE, TECHNOLOGICAL AND REGULATORY FACTORS AFFECTING CONSUMER CHOICE OF INTERNET PROVIDERS (2000) [hereinafter GAO REPORT].

proceedings[5] and multiple legislative efforts focused on how to regulate this single new service, Minnesota has not escaped the debate.

However, despite the substantial effort and consideration being spent on the question of how to regulate cable Internet services and other convergence technologies, we do not appear any closer to obtaining a consistent regulatory approach for handling the ongoing introduction of new services over existing technology platforms. For example, the two and one-half year debate over how cable Internet services should be regulated remains unresolved and is only now being directly addressed by an FCC proceeding that is still in its very early stages.[6] At the same time, controversies over how to treat Internet telephony, streaming media and other convergence technologies also endure.[7]

Predominant in many of these controversies has been the struggle to define the *service* being provided by the new technology. Indeed, throughout recent debates regarding convergence technology, there has been an increasing tendency to claim that a "functional equivalency" approach to the regulation of convergence technologies, *i.e.*, where services are functionally equivalent they should be regulated the same, is both preferred and necessary.[8] This is especially true with respect to the cable Internet ser-

5. *E.g.*, Order Opening Investigation, Proposals to Require Access to Cable Modem Broadband Networks by Independent Internet Service Providers, No. 9-999/CI-99-1718 (Minn. Pub. Utils. Comm'n Dec. 20, 1999); AT&T Corp., No. P442,3123/PA-99-1021 (Minn. Pub. Utils. Comm'n Dec. 20, 1999).

6. The FCC's Notice of Inquiry regarding the specific question of cable Internet service regulation has completed the initial comment and reply stages, but no further action has been taken.

7. *E.g.*, Nondiscrimination in the Distribution of Interactive Television Services Over Cable, No. 01-15, 2001 WL 43385 (Fed. Comms. Comm'n Jan. 12, 2001) (notice of inquiry) (attempting to address convergence issues raised by the provision of interactive television over cable systems); ALFRED M. MAMLET, CENTER FOR CONTINUING LEGAL EDUCATION, AM. BAR ASSOC., INTERNET TELEPHONY: CONVERGENCE, CONFLICTS, AND CONFUSION (1998) (describing continuing IP Telephony convergence issues before the FCC); William C. Beckwith, Comment, *Cutting the Cord: Removing the CMRS Spectrum Cap to Promote Landline Convergence and Wireless Alternatives in the Local Loop*, 7 COMMLAW CONSPECTUS 369, 369 (1999) (discussing wireless telephony convergence controversies); Kasey A. Chappelle, *The End of the Beginning: Theories and Practical Aspects of Reciprocal Compensation For Internet Traffic*, 7 COMMLAW CONSPECTUS 393, 393-94 (1999) (noting the numerous outstanding issues still surrounding the regulatory classification of Internet services).

8. *E.g.*, GAO REPORT, *supra* note 4, at 35 (recommending that Congress amend the Communications Act "to ensure that similar services provided over different networks are regulated in a comparable manner."); *In re* High-Speed Access to the Internet, 15 F.C.C.R. 19,287, ¶¶ 43-46 (2000) (notice of inquiry) (request-

vice debate.[9] For example, in every court case considering the issue, an analysis of the functional service provided by cable Internet service, and whether that function is more similar to a "cable service" or a "telecommunications service" or an "enhanced service" or an "information service," has been held relevant, if not conclusive, of the regulatory question at issue.[10] The FCC and the Minnesota PUC have held this functional analysis of the service being provided to be a critical determinant in resolving the question of how cable Internet services should or must be regulated.[11] Such "service" determinations have also dominated questions of how to regulate Internet telephony, streaming media and other convergence technologies.[12]

There are many reasons why this "service-determinative" approach to regulating convergence technologies has been so widespread. From a statutory standpoint, service definitions have been an historical dividing line by which existing regulatory regimes have been separated. The FCC has built upon these statutory service distinctions to create further separate regulatory constructs using a service definition as a basis for determining inclusion in one regulatory framework versus another.[13] Minnesota has also relied

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ing comment on whether to implement a uniform legal framework for functionally equivalent high-speed data services); MAMLET, *supra* note 7, at D17-19 (stating that a functional equivalency approach to Internet telephony regulation is "probably the best way of dealing with . . . convergence"); Chappelle, *supra* note 7, at 393-94 ("Inconsistent treatment of functional equivalents will only further the complicating effects of convergence on communications regulation.").

9. *E.g.*, Earl W. Comstock, *Access Denied: The FCC's Failure to Implement Open Access as Required by the Communications Act*, 8 COMMLAW CONSPECTUS 5, 5-7 (2000); Reply Comments of Verizon Communications, High-Speed Access to the Internet Over Cable and Other Facilities, No. 00-185 (Fed. Comms. Comm'n filed Jan. 10, 2001); Reply Comments of the United States Telecom Assoc., High-Speed Access to the Internet Over Cable and Other Facilities, No. 00-185 (Fed. Comms. Comm'n filed Dec. 1, 2000).

10. *E.g.*, AT&T Corp. v. City of Portland, 216 F.3d 871, 876-77 (9th Cir. 2000); Gulf Power Co. v. FCC, 208 F.3d 1263, 1276-77 (11th Cir. 2000); MediaOne Group, Inc. v. County of Henrico, 97 F. Supp. 2d 712, 715 (E.D. Va. 2000); Comcast Cablevision of Broward County, Inc. v. Broward County, 124 F. Supp. 2d 685, 696 (S.D. Fla. 2000).

11. *E.g.*, Proposals to Require Access to Cable Modem Broadband Networks by Independent Internet Service Providers, No. 9-999/CI-99-1718 (Minn. Pub. Utils. Comm'n Dec. 20, 1999); *In re* High-Speed Access to the Internet, 15 F.C.C.R. 19,287, at ¶¶ 43-46.

12. *Supra* note 8.

13. Most notably, the FCC developed a separate regulatory regime for "enhanced services" in addition to those regulatory categories set forth in the Communications Act. FCC Common Carrier Services, 47 C.F.R. § 64.702 (1999).

on this form of service distinction to determine the different regulatory treatment afforded communications services.[14] These pre-existing statutory and regulatory frameworks often restrict the ability of regulators to adopt new models when addressing convergence technologies.

At the same time, there is a natural tendency for regulators and other policymakers to *want* to place new technologies within existing "service-determinative" regulatory regimes. Both regulators and consumers usually understand and are comfortable with the rules regarding a particular service category. The introduction of a new technology providing the same or similar service may require adopting new regulations addressing new controversies if the service is not subject to the same legacy regulations already in place with respect to that service. Consumer confusion and frustration can also be more likely if a service seemingly the same as that being currently provided over an existing technology is now being offered over a new technology under different rules.[15] One can recall the initial reluctance of consumers to accept the fact that satellite companies did not have to provide local television signals as a relevant example.

Finally, and most importantly, the persistence of "service-determinative" regulation has been greatly advanced by legacy providers of the same service. Convergence technologies, by definition, provide services that compete with current providers of the same service. There is a natural tendency then for the legacy provider of the same service, out of competitive concerns, to want the new convergence technology to adhere to the same regulatory restrictions. This competitive drive among legacy service providers frequently manifests itself rhetorically as a call for "regulatory parity" *i.e.*, same regulation for the same service. As demonstrated below, the influence of legacy service providers in arguing for the application of legacy regulations to new technologies in the name of regulatory parity has been a substantial, though not universally constructive, force in establishing a "service-determinative" approach to convergence technologies.

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14. Minn. Microwave, Inc. v. Pub. Serv. Comm'n, 291 Minn. 241, 248, 190 N.W.2d 661, 666 (1971) (distinguishing between the state cable and telephony regulatory regimes based on whether the service was "two-way" or not).

15. *E.g.*, MAMLET, *supra* note 7, at D18-19 (discussing the tendency for service-based legacy regulations to be applied to new technologies that provide the same service).

Despite these forces advocating a "service-determinative" approach to convergence technology regulation, a look at regulatory history with respect to communications services strongly advocates a different approach. In many respects, historical experiences have been all but discarded with respect to convergence technologies under the argument that convergence technologies are a recent development, presenting a case of first impression for communications regulators. However, in many respects the United States, and the FCC in particular, has had ample experience in addressing convergence technologies. An examination of this history reveals critical flaws in a "service-determinative" approach to regulation and advocates a technology-driven approach that can and should be applied to the current regulatory efforts to address convergence technologies.

This paper examines three past efforts to establish federal regulatory regimes, with respect to new technologies, to examine the different approaches used with respect to new technologies and the relative success or failure of those approaches. The paper then applies the lessons of those past experiences to the current controversy over cable Internet services, to examine how the different regulatory approaches being advocated conform or conflict with past experience. In doing so, this paper seeks to advance a new perspective with respect to convergence technologies that shifts away from "service-determinative" regulation and toward a more technology-driven approach. In this manner, the paper hopes to demonstrate how the fostering of new convergence technologies by accommodating technological differences and sensitivities will best serve consumers.

II. THE PAST REGULATIONS OF CONVERGENCE TECHNOLOGIES

From an historical perspective, it seems odd that "convergence" has only recently become a watchword in telecommunications policy. In fact, managing convergence technologies has been a task federal communications policy-makers have faced for several decades. To understand this, one must recognize that, at its root, convergence consists simply of the ability to provide a service using a technology different from that currently providing the same service.[16] To be sure, this notion is different from the popular conception of convergence, whereby technologies that are generally

16. *E.g.*, PUB. SERV. DIV., *supra* note 1, at 8.

thought to provide different services "converge" to start providing the same service. As the examples below point out, this is normally the case. However, from the standpoint of the regulator, whether a new technology able to provide an existing service is introduced by an entity that also provides another service should not affect the regulatory treatment of the new technology. Rather, the challenge that the regulator must face is how to regulate a new entity providing a service using a different technology than that employed by the legacy provider of this service. This question is not and should not be affected by the fact that a certain technology may also be capable of providing other services.[17]

With the understanding that convergence technologies simply consist of new technologies being offered to provide an existing service, it becomes clear that the telecommunications policy makers have addressed convergence issues on several occasions throughout the history of telecommunications regulation. In each of these instances, the response has involved a careful and complex balancing of public policy goals and technological necessities that rejects knee-jerk attempts to require the imposition of legacy regulations on new technologies.

A. *Cable Television*

It is ironic that the introduction of convergence technologies over cable systems has become so controversial today, given that cable television constitutes one of the first convergence technologies (and also, as demonstrated below, has faced more competition from new convergence technologies than any other industry). For decades, the dominant technology by which video signals were delivered to the home was over radio delivery by FCC licensed television broadcasters. Cable television offered a new means of delivering video signals to the home through wires, a technology then currently used only to provide voice communications. By providing a service already available (video) through a different technology

17. This is not to say that the other business ventures of a converging entity do not warrant consideration. Where appropriate, separate questions of market power and media concentration often affect the regulatory approach taken with respect to a particular entrant (for example, video dialtone). But, while these issues may be appropriate for consideration with respect to a particular entrant, they do not affect the basic question presented—how to treat a new technology being used to provide an existing service—and should not form the basis for an overall policy with respect to the new technology in question.

(wireline), and in fact a technology traditionally used to provide a different communications service, cable television presented regulators with the same regulatory question presented by modern convergence technologies: how to regulate a technology that is distinct from, but provides the same or similar service as, an existing, regulated technology.

Notably, the initial response to this question was *not* to try and achieve some notion of regulatory parity by imposing the same regulations on cable operators as were traditionally imposed on television broadcasters. Part of the reason for this was the insignificance of the cable industry as a competitor to the dominant television broadcasters at the time; initially cable television existed primarily as a complementary, rather than a competitive, service, expanding the reach of broadcast television and producing little if any independent programming.[18] However, equally important was the fact that any attempt to regulate cable television in the same manner as broadcasters would have been technologically nonsensical. Broadcast television regulation consisted of a federal licensing scheme that was itself created by technological necessity in order to avoid self-defeating interference created by an unrestricted marketplace. By contrast, cable television technology involved no such interference issues. At the same time, cable television faced a different technological necessity: the use of local rights of way. For this reason, cable television evolved as a local service, regulated by local governments through local franchises and entirely separate from the scheme of federal regulation created to address television broadcasters. Thus, technological necessities dictated that cable television and broadcast television, despite providing the same service, became regulated under two separate regulatory regimes with little resemblance to each other. Indeed, the technological distinctions between the two services made any suggestion that the two services should be subject to the "same regulation" simple to reject.

18. Report in Docket No. 12443, 18 Rad. Reg. (P & F) 1573 (Fed. Comms. Comm'n 1959) (finding that cable television posed no existing economic threat to broadcasters). Indeed, on two separate occasions, once in 1959 and again in 1966, the FCC sought legislation that would have given it express authority to regulate cable. The failure of these legislative efforts is widely recognized as reflecting the relative lack of importance of cable television as a competing provider of video programming services. JAMES C. GOODALE, ALL ABOUT CABLE: LEGAL AND BUSINESS ASPECTS OF CABLE AND PAY TELEVISION § 2.02[1] (Rev. ed. 1988) ("the failure to gain express congressional sanction was immaterial since cable's impact was viewed as relatively minor.").

The idea that cable television technology should be regulated in the name of "parity" with broadcast television began to arise in the late 1970s, when cable television first emerged as a service that could compete with, rather than merely complement, broadcast television service. As with the arguments for "regulatory parity" being raised today, these arguments were fueled not by public policy concerns over the service cable television was providing, but rather by competitive concerns from the broadcast television industry regarding the competitive new programming being offered over cable systems. As cable operators began offering services beyond the mere retransmission of local television signals, a variety of regulatory and legislative efforts were undertaken to essentially force cable television providers to adhere to the same regulatory and technological limitations experienced by television broadcasters.

The broadcast-centric nature of this effort to impose regulations on cable operators is further revealed by the authority upon which the FCC relied to impose regulations on cable television operators during this period. Prior to 1984, the FCC had no direct authority to regulate cable television systems. Rather, the FCC's authority to impose regulations on cable operators was derived from its authority to regulate television broadcasting. Accordingly, all FCC regulation of cable television was, by definition, broadcast regulation that was being applied to the cable television industry. Thus, the regulations deployed by the FCC were all characterized by a desire to ensure that cable television technology was limited by the same ground rules as those applicable to broadcast television. Examples of these regulations include limitations on the display of non-broadcast programming, limitations on the ability to import non-local broadcast signals, requirements to respect local broadcast exclusivity arrangements, and even limits on the amount of channel capacity a cable operator could employ. The goal of this effort was clear: to prevent cable operators from emerging as a service that could effectively compete with broadcast television by imposing limitations on cable television that precluded cable television from using its technological advantages to provide services that broadcast television could not.

Significantly, this attempt by the FCC to regulate cable television based upon concerns over regulatory parity with broadcasters was a *failure.* Beginning in the late 1970s, the FCC's policies were the topic of continuing litigation and policy disputes, resulting in the invalidation of most of the FCC's cable regulations and necessi-

tating sweeping legislation to reform cable television regulation in 1984.[19] This was due largely to statutory and constitutional issues regarding the FCC's authority over cable television.[20] However, these issues were also deeply influenced by the technological distinctions particular to cable television and the FCC's refusal to recognize those distinctions in applying legacy regulations to cable operators.

The seminal case exemplifying the flaws in the FCC's regulatory approach is *Home Box Office, Inc. v. FCC*.[21] In this case, the United States Court of Appeals for the District of Columbia Circuit considered the validity of the FCC's cable "anti-siphoning" rules.[22] Consistent with the FCC's general broadcast-centric approach to cable television, the "anti-siphoning" rules consisted of a series of programming restrictions designed to prohibit cable operators from showing programming beyond what was being shown over broadcast television stations.[23] Specifically, the anti-siphoning rules prohibited cable operators from showing certain films, sports events, and other programming unless it either 1) was being shown by a re-broadcast of a broadcast television signal or 2) fit within a specific, limited category of programming unlikely to ever be shown on free, broadcast television. In this manner, cable television would be precluded from distinguishing itself from broadcast television as a service except in a highly limited manner. At the same time, the cable "anti-siphoning" rules also were a direct application of rules to cable television that had originally been created to apply to "subscription broadcast" television. The FCC's application of these rules to cable television was, in part, for the direct purpose of removing the inconsistency between cable regulation and broadcast regulation.[24] Thus, on multiple levels, the "anti-siphoning" rules represented an attempt to regulate cable television for the purpose of achieving regulatory parity with broadcasters.

In striking down the FCC's anti-siphoning rules, the court exposed the problems inherent in the FCC's approach to cable televi-

19. GOODALE, *supra* note 18.
20. *Id.*
21. 567 F.2d 9 (D.C. Cir. 1977).
22. *Id.* at 18-25.
23. Second Report and Order, 35 Rad. Reg. 2d (P&F) 767 (Fed. Comms. Comm'n 1975).
24. Cmty. Antenna Television Sys., 23 F.C.C.2d 825 (1970) (memorandum opinion and order).

sion as a convergence technology. First, the court revealed the flaws in simply applying to cable television rules developed for application to broadcasters. Specifically, the court found that, because the "anti-siphoning" rules were originally created to address the specific problems related to pay broadcasting, certain of the justifications for adopting the rules were lacking with respect to cable television. As the court stated, "the reasons for which these rules were adopted in the subscription television proceeding are not applicable here."[25] This was because cable television did not share the same essential technological characteristics that were found to justify the "anti-siphoning" rules with respect to broadcast television, namely a physical limitation to the number of possible broadcasters and a limited amount of programming to be provided over a particular broadcast station.[26] Absent these particular technological characteristics, the "anti-siphoning" rules could not be applied to cable television, even though it provided ostensibly the same service (video programming) as broadcast television.[27]

In addition, the court cited these same technological distinctions in finding that the separate treatment of cable television and broadcast television was constitutionally required.[28] As the Supreme Court has consistently held, the ability of the FCC to regulate broadcast television consistent with the First Amendment was in large part due to the physical scarcity of broadcast spectrum; because of these technological factors, there was a necessary limit to the number of persons who could use broadcast spectrum to speak, thereby justifying governmental regulation of those speech activities.[29] As the court found, this same justification for regulation "cannot be directly applied to cable television since an essential precondition of that theory—physical interference and scarcity requiring and umpiring role for government—is absent."[30] Examining the "anti-siphoning" rules in light of this increased constitutional restriction on the FCC's authority, the court found that the

25. *Home Box Office, Inc.*, 567 F.2d at 34.

26. *Id.* (noting that the justification for the "anti-siphoning" rules in the broadcast context was because of "a need to allocate scarce spectrum resources" and that "[s]uch an allocation problem is clearly not involved in this case.").

27. *Id.* (finding the "anti-siphoning" rules also suspect with respect to cable television "given the abundance of channels that cable systems can carry.").

28. *Id.* at 43-51.

29. *Id.* at 43-45 (citing Red Lion Broad. Co. v. FCC, 395 U.S. 367, 386-88 (1969); Nat'l Broad. Co. v. United States, 319 U.S. 190, 212-13 (1943)).

30. *Id.* at 44-45.

FCC's stated reasons for imposing the "anti-siphoning" rules on cable television, though deemed sufficient in the broadcast context, could not meet the higher First Amendment threshold mandated by cable television's distinct technological characteristics.

Home Box Office exemplifies the FCC's struggles over how to regulate cable television. The D.C. Circuit's decision was followed by further court challenges that, for similar reasons, invalidated FCC cable regulations.[31] While much of this failure was the result of the FCC's lack of any direct authority to regulate cable television, failure was also caused by the FCC's consistent inability to look past the similarities between services provided by cable television and broadcast television and develop independent regulations for cable television that were appropriately tailored to cable television's distinct technological characteristics. This failure necessitated the passage of the 1984 Cable Act, which clarified FCC regulatory authority and attempted to create a regulatory regime particular to cable television.[32]

Home Box Office and the FCC's early struggles in regulating ca-

31. Most notably, in 1979 the Supreme Court also considered the FCC's attempts to regulate the cable industry in *Federal Communications Comm'n v. Midwest Video Corp.*, 440 U.S. 689, 689 (1979). In almost a mirror image of the *Home Box Office* decision, the Court struck down the FCC's regulations because they consisted of common carrier regulations similar to those the FCC typically imposed on telephone companies pursuant to Title II of the Communications Act. *Id.* at 707-09. The Court reasoned that the imposition of such common carrier regulations on cable operators could not be justified because, unlike telephone technology, cable television technology necessitated that cable operator's perform an editorial function. *Id.* at 707. Thus, as in *Home Box Office*, the FCC's attempt to impose existing regulatory requirements on a new technology was rendered invalid because those regulations did not reflect or account for the unique technological characteristics of cable television.

32. While this regulatory regime still retains vestiges of the FCC failed regulations, the ultimate justification for retaining these characteristics was not to level the competitive playing field, but rather to preserve free over-the-air broadcasting. First Report and Order, 38 F.C.C. 683, 700 (1965) (promulgating the initial FCC distant signal rules in order to prevent activities that might "destroy or seriously degrade the service offered by a television broadcaster."). As indicated in the Supreme Court's earliest decisions on the question, this the only justification for imposing broadcast regulations on cable operators. United States v. S.W. Cable Corp., 392 U.S. 157, 175-77 (1968) (determining that the interest of protecting free local broadcasting service from degradation or destruction was a regulatory goal within the proper authority of the FCC). The Supreme Court has since relied on this justification to support other, arguably inappropriate, regulations on cable television. *E.g.*, Turner Broad. Sys., Inc. v. FCC, 512 U.S. 622, 663 (1994). While the propriety of preserving free broadcast television at the expense of cable operators certainly can be and has been questioned, the debate is clearly separate from concerns over regulatory parity based on the service cable television provides.

ble television provide several important lessons with respect to regulating new convergence technologies. First, regulators must be cognizant of and sensitive to technological distinctions between a new convergence technology and the technologies currently providing the same or similar service, regardless of how subtle those distinctions may be. Technological distinctions, even minor ones, can render regulatory actions traditionally taken with respect to a particular service inappropriate and unwarranted in a different context. As a result, regulations that serve the public interest when imposed on an existing technology may have the opposite effect when imposed on a new convergence technology.

Second, regulators must be aware that any attempt to impose "regulatory parity" in a service area carries an inherent risk of stifling the evolution of technology with respect to that service. The FCC victories by the broadcasters in their initial attempts to stop cable television from employing its technology certainly delayed or retarded the growth of the incredibly diverse and rich programming that exists today. Only after the removal of those inappropriate regulations and the adoption of a more technologically appropriate regulatory regime in the 1984 Cable Act was cable television able to evolve into the service we know today. Thus, while in 1984 there were only a handful of programming networks producing news, information, and entertainment programming, there are now over 220 and growing.[33] If the FCC's inappropriate responses to initial cries for "parity" had been allowed to continue, one can only wonder how much longer the diverse programming voices available today would have been silenced.

Third, regulators should be skeptical of claims that a failure to impose "regulatory parity" with respect to a new technology will somehow lead to market dominance by that new technology. Despite claims that their livelihood was critically threatened; broadcasters have not only survived, but thrived with the advent of cable television. During the 1980s alone, the number of broadcast stations grew from 734 to 1093,[34] due in large part to the expanded audience and improved reception that could be obtained through cable television technology. Today that number has increased to

33. NAT'L CABLE TELEVISION ASSOC., CABLE TELEVISION INDUSTRY OVERVIEW 2000 2 (2000).

34. FLORENCE SETZER & JONATHAN LEVY, BROADCAST TELEVISION IN A MULTICHANNEL MARKETPLACE 11 (Office of Plans and Policy, Fed. Comms. Comm'n, Working Paper No. 26, 1991).

over 1600.[35] More importantly, broadcasters have adapted to take advantage of the technology that they once feared. Now every major network also has at least one cable network to offer consumers. This resiliency shows how the market and its participants adapt to new technologies in a way that undermines claims that new technologies must be reigned in by artificial limitations.

B. Wireless Telephony

Perhaps no convergence technology has been more successfully implemented than commercial wireless telephone service. Since 1983, when the FCC first began assigning licenses for cellular service, wireless telephony has experienced incredible growth and technological development. For example, in 1985 wireless service consisted of 200,000 subscribers to analog cellular service covering only a limited area of the country.[36] Currently there are over eighty-six million subscribers to one or more forms of wireless telephony providers offer, such as analog, digital, data and other services.[37] Perhaps more importantly, the wireless telephony market is highly competitive and dynamic. Today, eighty-eight percent of the total United States population has three or more different wireless telephony operators providing service in their counties, providing the full panoply of telephony service, including local and long distance voice services, as well as all forms of data communications.[38] This robust development has effectively made cellular service an effective substitute for traditional wireline telephone service and led many to speculate that wireless service could utterly replace traditional wire-line telephony service in the not too distant future.[39]

In light of this development, it is now clear that commercial wireless telephone service (including cellular, PCS, and SMR services) represents a nearly prototypical example of a convergence

35. MASS MEDIA BUREAU, FED. COMMUNICATIONS COMM'N, BROADCAST STATION TOTALS AS OF SEPTEMBER 30, 2000, *at* http://www.fcc.gov/mmb/obc/fy2000st.txt.

36. COUNCIL OF ECONOMIC ADVISORS, PROGRESS REPORT: GROWTH AND COMPETITION IN U.S. TELECOMMUNICATIONS 1993-1998 14 (1999).

37. *Fifth Annual Report on State of Wireless Industry Report Finds Wireless Competition Increasing*, (released Aug. 3, 2000) *at* http://www.fcc.gov/Bureaus/Wireless/News_Releases/2000/nrwl0026.doc.

38. *Id.*

39. *E.g.*, Beckwith, *supra* note 7, at 371; Peter Elstrom et al., *A Cell Phone in Every Pocket?*, BUS. WK., Jan. 18, 1999, at 38 (quoting Andrew Cole, head of Renaissance Worldwide, Inc.'s wireless practice as saying: "Our children's children will see old movies with wired phones and wonder why anybody ever used them.").

technology: a technology that employs an existing technology platform (wireless communications) that is currently used to provide an established service (radio broadcasting). Cellular service provided an existing service (point to point telephony) that was already being provided over a distinct technology platform (wireline telephony). In addition, like cable television, cellular also has an additional common feature of convergence technologies—a technological capability that the established technology lacks: mobility. However, despite these common characteristics of a convergence technology, wireless telephone service, unlike other modern convergence technologies, has been relatively free from attempts to burden it with regulations normally reserved for the existing service technology, namely wireline telephony. The reasons for this are several and complex, but a few are insightful with respect to how convergence technologies should be approached from a regulatory standpoint.

First is the fact that, like cable television, technological distinctions between wireless telephony and traditional wireline telephony largely precluded any attempt to impose legacy regulations applicable to wireline telephony to wireless telephony providers. While wireline telephony involves the use of local rights of way and local switched networks, cellular and other wireless telephony spectrum employs radio frequency spectrum that must, as a practical matter, be licensed at a federal level. This critical technology distinction precluded any initial consideration of imposing the existing Title II common carrier regime on cellular carriers pursuant to a "regulatory parity" argument.

However, perhaps more important than these technological distinctions was the fact that wireless telephone service was treated from the onset as new and distinct technology, rather than as a competitive entrant in an existing service niche. This was in part because the technological distinctions between wireless telephony and traditional wireline service initially prevented wireless telephony from being an adequate substitute for wireline service. Cellular, and later PSC and SMR services, initially lacked universal coverage necessary in a telephone network service. In addition, reception issues and the inability to provide certain ancillary services, such as data services, facsimile transmissions and information services (such as 911, E911 and 411) made the prospect of using wireless telephony services in lieu of wireline telephony service unacceptable. Further detracting from the appeal of wireless teleph-

ony as a substitute for wireline service was the inability of most wireless services to provide service at prices competitive with those being offered by wireline providers.[40] These service distinctions, in addition to the technological distinctions discussed above, further preclude arguments that traditional wireline telephony service regulations should also be imposed on wireless technologies simply because both services provided local and long distance telephony.

However, there is ample evidence today that the service distinctions between wireless and wireline telephony are eroding quickly. There are now several wireless telephony service providers capable of serving the entire nation with nearly seamless coverage. Digital technology has also eliminated most of the service quality problems and other service limitations, such as the inability to facilitate data transmissions. Perhaps most importantly, the prices for wireless telephony services have become increasing competitive with traditional wireline service alternatives. Indeed, depending on a customer's amount and ratio of local and long distance use, a customer may actually be able to acquire wireless telephone service more cheaply than the same wireline local and long distance service.

Despite the continuing development of wireless service as a desirable substitute for traditional wireline telephony service for many customers, there remain few, if any, serious attempts to require that wireless telephony providers begin adhering to the same common carrier and other Title II regulatory restrictions traditionally imposed on wireline telephony providers. One prime example is the demonstrated resistance by the FCC and other policymakers to apply the universal service scheme currently applicable to wireline telephony providers. Despite an existing acknowledged problem with respect to encouraging the development of wireless service in rural areas, there has been strong resistance to applying a universal service regime to wireless telephony. This resistance is despite universal service remaining the traditional regulatory mechanism used to address issues related to rural underservice in the wireline realm.[41] Instead, the FCC has continued to rely on spectrum buildout requirements and other measures adopted for specific

40. Commissioner Susan Ness, Remarks Before the Federal Communications Bar Ass'n, Washington, D.C. (Jan. 20, 1999), http://www.fcc.gov/Speeches/Ness/spsn903.html (describing the pricing history of wireless telephony).

41. *E.g.*, *In re* Spectrum Aggregation Limits for Wireless Telecommunications Carriers, 13 F.C.C.R. 25,132, ¶ 41 (1998) (notice of proposed rulemaking).

application to the wireless telephone industry.[42] Thus, despite the continuing convergence of wireless and wireline services, there remains a palpable resistance to imposing traditional wireline regulatory measures on wireless telephony providers.

In the face of increasing convergence between the wireless and wireline telephone industries, the absence of "regulatory parity" arguments with respect to these competing technologies can perhaps best be explained by examining the competitors involved. Unlike other convergence technologies, wireless telephony was developed without prohibitions on ownership and participation by existing telephony service providers. To the contrary, initial cellular service licenses were issued pursuant to what has become known as the "duopoly rule." Under the "duopoly rule," incumbent local wireline telephone providers in each cellular service market were assured one of the two cellular licenses issued in their service areas. Thus, from its very beginnings, the dominant providers of wireline telephony service have had a substantial stake in the development of cellular service. This participation has continued as the wireless telephony market has evolved, with incumbent wireline telephony providers acquiring and retaining substantial stakes in PCS and SMR technologies. This ownership stake in the success of cellular technology undermines the interests of those entities that commonly raise issues of regulatory parity. In other words, it is no wonder that the incumbent service providers that normally would raise claims of regulatory parity with respect to convergence technologies would not do so where, as in the case of the wireless telephone industry; those incumbent service providers hold substantial stakes in the convergence technologies.

Looking at the wireless telephone industry as a convergence technology helps to build upon the principles observed with respect to the cable television industry. As with cable television, a distinct regulatory framework was dictated by technological differences between the convergence technology and the incumbent service technology platform. Also in accordance with the cable television experience, the development of wireless telephony within its distinct regulatory framework proved to be beneficial, rather than detrimental, to the competitive development of not only the wireless telephony industry, but also the telephony industry in gen-

42. 47 C.F.R. § 24.203(a)-(b)(1999) (buildout requirements) & § 24.714 (1997) (partitioning and disaggregation).

eral.

But the most important observation regarding the wireless telephony experience is what is revealed by the fact that the wireless industry has not been faced with a significant attempt to impose legacy regulations. Even as wireless telephony service has emerged as a significant competitor to incumbent telephony service providers, there have been no claims that wireless telephony service must somehow meet wireline regulatory requirements in order to ensure competition. This begs the question as to why incumbent wireline telephone companies, the very entities that are arguing so vociferously for "regulatory parity" with respect to cable convergence technologies, do not make the same claims with respect to this other, emergent competitor providing the "same service" through a convergence technology. As revealed above, the answer very likely lies in the ownership stakes wireline telephony providers hold in the competing technology of wireless telephony. What the lack of "regulatory parity" arguments being applied to wireless technologies teaches is that claims in favor of applying legacy regulations to new technologies in the name of "regulatory parity" are less about developing or preserving competition and more about protecting the interests of competitors. In the absence of specific competitors whose interests are threatened by the emerging technology of wireless telephony, cries for regulatory parity with respect to wireless telephony service have been all but absent. At the same time, competition between wireless telephony providers has thrived alongside the current wireline telephony industry, with direct competition steadily emerging. These consumer benefits belie the notion that convergence technologies necessarily present a need to establish a form of regulatory level playing field. Rather, such technologies can develop within their own technological environment in a manner that serves the public interest by promoting healthy competition and accelerating technological development.

C. Open Video Systems (OVS)

The example of Open Video Systems (OVS) is insightful in that it represents an attempt to introduce a convergence technology through regulation. OVS was created by the Telecommunications Act of 1996 as a means of enabling entities (in particular, local telephone companies) to provide cable services in a local community without having to comply with the same regulatory requirements that are commonly imposed on incumbent local cable

service providers through the local franchising process.[43] Specifically, OVS operators were permitted to construct local cable systems in communities without having to comply with certain provisions of Title VI of the Communications Act regarding cable franchising and other traditional cable regulatory requirements, in exchange for a requirement that the OVS operator dedicate a minimum amount of system capacity to common carrier use by third party program providers.[44] This basic model was established prior to the 1996 Act by the FCC's video-dialtone rules as an attempt to enable local telephone companies to provide cable services in local communities despite the existence of a federal ban on local telephone companies owning cable systems.[45] Although the 1996 Act removed the federal ban on local telephone company ownership of cable systems,[46] portions of the video-dialtone model were retained in the form of OVS in order to give telephone companies and other entities a means of entering the cable business without having to abide by the same regulatory burdens.

Simply looking at the regulatory regime established to address OVS, OVS has the look and feel of a convergence technology. OVS providers are offered a customized regulatory framework designed to allow a new entrant to provide a service already being provided. This appearance is furthered by the fact that the OVS operators were specifically intended to encourage a current provider of different services, local telephone providers, to begin providing cable service in addition to telephony. In this manner, the OVS rules were created to facilitate the "convergence" of local telephone providers offering cable service.

However, as an attempt to establish a separate regulatory regime for the provision of cable services OVS suffered from a fatal flaw. Specifically, unlike cable or wireless telephony, OVS was not a new technology distinct from the technology currently being employed. Nearly all OVS systems currently being developed employ the same hybrid fiber-coaxial technology already used by cable op-

43. 47 U.S.C.A. § 573 (1991 & Supp. 2000).

44. *In re* Implementation of the Telecommunications Act of 1996: Open Video Systems, 11 F.C.C.R. 20,227 (1996) (third report and order) [hereinafter OVS Third Report].

45. *In re* Telephone Company-Cable Television Cross-Ownership Rules, 7 F.C.C.R. 5781 (1992) (second report and order).

46. This removal was not absolute in that telephone companies remain restricted from acquiring existing cable systems in their service area. 47 U.S.C.A. § 572 (1991 & Supp. 2000).

erators.[47] Accordingly, the OVS rules neither contemplate nor require that OVS operators use any form of technology other than the hybrid fiber-coaxial systems currently being used by cable operators. Rather, OVS as a "system" or "technology" was an artificial regulatory construct without any technological basis supporting its creation separate from the current regime applicable to cable television systems.

This lack of any technological distinction supporting the creation of OVS rules separate from the traditional regulation of cable systems all but ensured the failure of the OVS regulatory regime. Even before the OVS provisions of the 1996 Act were passed, Congress appears to have struggled with its own intent to impose separate regulatory requirements on OVS absent technological justification. While generally wishing to relieve OVS providers of the franchise requirements traditionally imposed on cable operators, the OVS provisions of the 1996 Act nonetheless continued to impose upon OVS operators many of the same Communications Act provisions applicable to cable operators. These included direct application of current Cable Act requirements (such as program access requirements, ownership restrictions, negative option billing, subscriber privacy, and equal employment opportunity requirements),[48] as well as instructions to the FCC to adopt regulations ensuring that OVS operator have regulatory burdens "equal" to cable operators.[49]

The difficulty in applying different regulation to the same service using the same technology was equally present during the FCC's proceedings to implement the OVS provisions of the 1996 Act. For example, in accordance with its statutory obligation to ensure that OVS operators have certain regulatory burdens equal to those imposed on cable operators, the FCC considered how that obligation applied to the contribution of public, educational and governmental ("PEG") funding. Initially, the FCC determined that Congress's deregulatory intent permitted an OVS operator to assume burdens that were proportionately equal, but not matching to the cable operator's requirements in the same service area.[50] How-

47. Notice of Intent to Provide an Open Video System, Black Rock Cable (Fed. Comms. Comm'n filed May 24, 1999) (one of numerous proposals to construct an OVS system using coaxial cable technology) <http://fcc.gov/csb/ovs/csovsnoi.html>.

48. 47 U.S.C.A. § 573(c)(1)(1991 & Supp. 2000).

49. *Id.* § 573(c)(2)(A).

50. *In re* Implementation of the Telecommunications Act of 1996: Open

ever, upon reconsideration, the FCC was unable to justify maintaining this seemingly minor regulatory inequity and required that OVS operators *match* the cable operator's contributions in not only the amount of PEG access channel capacity provided, but also in the PEG capital and in kind contributions made by the cable operator.[51] Thus, the FCC also appeared to have difficulty justifying different regulatory treatment between OVS and cable systems.

The few remaining regulatory distinctions between traditional cable operators and OVS operators were all but eliminated in the subsequent case of *Dallas v. FCC*.[52] In that case, the court considered challenges to the FCC's final OVS regulations from potential OVS operators, local regulators, and cable operators. In particular, for purposes of this analysis, the City of Dallas, the United States Conference of Mayors and the National Association of Telecommunications Officers and Advisors challenged the FCC's determination that local franchising authorities were prohibited from requiring OVS operators to obtain local franchises to use local rights-of-way.[53] The court agreed, finding that Congress had not provided a sufficiently clear indication that it intended to preempt local authority to require franchises.[54] Thus, the court overturned the FCC's determination that OVS operators could not be subjected to local franchise regulation.[55]

In doing so, the court removed the primary regulatory distinction between OVS and cable television. As the FCC indicated in its arguments before the court,[56] the ability of OVS operators to provide cable service without obtaining a local franchise was the core of the effort to create a different, less burdensome, regulatory regime for OVS. Indeed, as the FCC pointed out, the court's determination that OVS operators could be subject to franchise requirements essentially meant that OVS operators could be subject to regulatory burdens even greater than those imposed on cable operators.[57] Oddly, the court appeared to agree that its decision

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Video Systems, 11 F.C.C.R. 14,639, ¶ 141 (1996) (second report and order).

51. OVS Third Report, *supra* note 44, at ¶ 130 (emphasis added).

52. 165 F.3d 341 (5th Cir. 1999).

53. *Id.* at 347.

54. *Id.* at 348-49.

55. *Id.* at 349.

56. *Id.* at 348-49 ("The FCC ... argues that to achieve Congress's deregulatory objectives, it is necessary to preempt local franchising authority.").

57. *Id.* at 349 ("The Commission maintains that if [the OVS rules] does not preempt local franchising authority altogether ... localities will be able to impose more onerous regulations on OVS operators than on cable operators.").

could lead to such a result and that this result was contrary to Congress's clear intent "to lower the regulatory hurdles OVS operators face."[58] Nonetheless, the court adhered to its strict statutory reading and held that the FCC could not preempt local authority to require franchises from OVS operators.[59]

The *Dallas* court's willingness to ignore congressional intent and the expert determinations of the FCC can be explained as a further casualty of the artificial distinction between OVS and cable television. Critical to the court's analysis was the determination that local authority to franchise cable systems did not derive from the Communications Act, but rather was a pre-existing authority based on the use of local rights of way; accordingly, statutory requirements that OVS operators not be subject to federal franchise requirements were insufficient to preempt local authority over rights-of-way use.[60] Because, like cable television, OVS required the use of local rights of way, the court determined that local franchising authorities must be permitted to exercise franchising authority over OVS operators. Thus, the court's decision was compelled by the technological equivalence of OVS and cable television, *i.e.*, both technologies used local rights-of-way in exactly the same manner. This characteristic of the common technology being used by both cable and OVS therefore required that the same regulatory regime of local franchising that was applicable to cable also be applicable to OVS.

What Congress, the FCC and the court in *Dallas v. FCC* all experienced was the inability to justify regulatory distinctions in the absence of technological distinctions. It in this context that the strength of the regulatory parity argument is exhibited. Legacy regulations applied to a particular technology have a large body of precedent and public policy reasoning to justify their application. Presumably, these justifications and precedent have been already cultivated and tested through a regulatory process against countervailing interests to ensure that the legacy regulation is appropriate and necessary to the technology involved. As a result, in the absence of a technology distinction, it can be argued with some force that regulations applied to existing service providers using the same

58. *Id.* at 349 & n.6 ("While the agency's argument is plausible, it does not affect our holding.").

59. *Id.* at 349 ("[A]pparent congressional intent as revealed in a conference report does not trump a pellucid statutory directive.").

60. *Id.* at 348 & n.5.

technology are equally appropriate to a new entrant, regardless of other factors affecting the new entrant. In the case of OVS, where technology concerns were not present, there was little to justify separate regulatory treatment. Accordingly, the OVS regulatory regime was slowly eroded until it was all but indistinguishable from traditional cable regulation.

The OVS experience is instructive on the question of how to regulate convergence technologies in that it demonstrates the paramount importance of technological distinctions in determining a proper regulatory regime. Just as the example of cable television regulation teaches that ignoring technological distinctions will lead to inappropriate and ineffective regulation, OVS proves the converse: that attempts to accord separate regulatory treatment in the absence of actual technological distinctions lack foundation and can be difficult, if not impossible, to justify. In this limited context where technologies are the same, the platitude of "same service, same regulation" can be said to ring true. Indeed, the OVS example teaches that, where the technology and the service is the same, the same regulation may be an inevitable result.

III. HISTORICAL LESSONS SUMMARIZED—A PLEA FOR TECHNOLOGICAL SENSITIVITY

As noted above, the past regulation of new technologies providing existing services advocates an approach far different from the service-based approach commonly being advocated with respect convergence technologies. First and foremost, the failure of past attempts to impose legacy regulations on new technologies demonstrates that the regulation of convergence technologies must be driven, not by the service being provided, but by the unique characteristics of the technology being used to provide that service. Absent this primary sensitivity to technological distinctions, regulations invariably are unsuccessful in meeting the goals of, and detrimental to the public interest in, promoting the availability of services over multiple, competing platforms. Second, contrary to the historical arguments that have been made to resist such distinct regulation, such separate, technology-specific regulatory regimes have been employed successfully without a detrimental effect on competition or the pre-existing providers of the same service. Finally, once established, deviations from technology-specific regimes must be warranted by technological distinctions. Absent such a technological basis, attempts to confer separate regulatory treat-

ment become unjustifiable.

This is not to say that service determinations are not relevant in forming regulatory policy. Indeed, the need to ensure a level regulatory playing field between competitors is and should remain an important goal in forming communications policy. It is the inordinate focus on the service being provided in addressing new convergence technologies that is flawed. Where the same technological means for achieving a certain end are being employed by a new competitor, the presumptions should be that the same regulatory construct applies to the new entrant as that applied to those currently providing service using that technology. But, where a different technology provides a new model for providing a certain service, calls for regulatory parity without regard to technological distinctions are both inappropriate and damaging to the goal of providing consumers with competitive services over a number of different platforms.

IV. APPLICATION OF HISTORICAL LESSONS TO THE CURRENT STRUGGLE: CABLE INTERNET SERVICE AS A CONVERGENCE TECHNOLOGY

Although other models have been proposed and/or considered, the debate over the regulation of cable Internet service has centered around two competing regulatory approaches. One is the approach set forth in congressional amendments to the Cable Act as part of the Telecommunications Act of 1996. Under that approach, cable Internet services would be subject to the same regulatory regime currently applicable to traditional "cable services," such as video programming and video games. The second approach is the "access approach." Referred to as "Open Access" by its supporters and "Forced Access" by its opponents, the access approach is derived from the regulatory requirements currently applied to telephone companies and other telecommunications service providers with respect to dial-up access to the Internet, and also high-speed data services such as DSL. Under the access approach, cable Internet services would be made subject to the same basic requirements applicable to DSL and other high-speed data services provided over traditional telephone networks. In particular, cable operators would be required to separate the access element of cable Internet service into a separate product for sale on a common carrier basis.

Both these approaches have been analyzed in the legal context

with varying, even confusing, results. However one views the legal debate over which approach should prevail, the overriding concern in determining how to regulate cable Internet service should be the same as that applied to any other convergence technology—to foster the development of competition and choice to consumers. As shown by the above analysis of past attempts to regulate competing technology platforms, achieving this goal requires a specific approach characterized by sensitivity to technological distinctions and a resistance to service-driven regulation. Applying these historical lessons to the current regulatory approaches being advocated with respect to cable Internet service identifies relative advantages and disadvantages of each in serving the public interest.

A. *The Congressional Approach*

The congressional approach is detailed in the 1996 amendments to the Cable Act as part of the Telecommunications Act of 1996. Although cable Internet service had not been widely deployed at the time, by 1996 cable Internet service technology had been in development for many years. However, cable operators had cited a burdensome and uncertain regulatory environment as a barrier to the deployment of cable Internet service technology. The 1996 Act gave Congress the opportunity to foster the deployment of such technology by addressing the existing regulatory barriers.[61]

Remarkably (and perhaps contributing to its limited adoption), the congressional approach is primarily reflected in a two-word amendment to the pre-1996 definition of "cable services" in the Cable Act. Under that amendment, the Cable Act defines cable service as "(A) the one-way transmission to subscribers of (i) video programming, or (ii) other programming service, and (B) subscriber interaction, if any, which is required for the selection *or use* of such video programming or other programming service."[62] The only difference between this definition of cable service and the one

61. In addition to the cable service definition amendments discussed below, Congress also limited the future rate regulation of cable services, provided for the averaging of equipment rates so as to increase the affordability of new service equipment, and preempted and prohibited local regulations aimed at restricting the deployment of new cable customer equipment and transmission technology. Telecommunications Act of 1996, Pub. L. No. 104-104, sec. 301, 110 Stat. 56, 114 (codified as amended at 24 U.S.C.A. § 522 (1991 & Supp. 2000)).

62. 47 U.S.C.A. § 522(6)(1991 & Supp. 2000) (emphasis added).

that existed prior to 1996 is the insertion of the words "or use" in Part B.[63] Nonetheless, this simple addition reflected a conscious effort to substantially expand the range of services that could be provided as "cable services" under federal law. As the plain language indicated, the definition no longer excludes two-way interactive services, but rather includes video and non-video services that require subscriber interaction for the "use" of such services.

This intent was expressly set forth in the legislative history of the "cable service" definition amendments. As the Conference Report stated: "The Conferees intend the amendment to reflect the evolution of cable to include *interactive* services such as game channels and *information services* made available to subscribers by the cable operator, as well as *enhanced services*."[64] In addition to expressing Congress's desire to significantly expand the types of services that could be provided as "cable services," this statement in the legislative history evinces a clear intent to include cable Internet services within the definition of cable services. Specifically, the Conference Report directly states that "information services" and "enhanced services" are within the services covered by the amended definition of cable service. These terms are long-established regulatory terms to describe Internet services, such as Internet access, on-line services and ISP services.[65] Thus, by using the terms "information service" and "enhanced service," Congress was undeniably bringing Internet services provided over a cable system within the scope of services subject to regulation as "cable services."

This inclusion of cable Internet services in the federal definition of "cable services" effectively designates the regulatory construct applicable to cable Internet services. Under the Communications Act, all "cable services" under the federal definition are

63. Telecommunications Act of 1996, Pub. L. No. 104-104, § 301, 110 Stat. 56, 114 (codified as amended at 24 U.S.C.A. § 522 (1991 & Supp. 2000)).

64. S. REP. NO. 104-230, at 169 (1996) (emphasis added). Surprisingly, neither of the two circuit court opinions addressing the issue of whether cable Internet services qualify as a "cable service" have acknowledged or addressed this language in the legislative history. AT&T Corp. v. City of Portland, 216 F.3d 871, 876-77 (9th Cir. 2000); Gulf Power Co. v. FCC, 208 F.3d 1263, 1276-77 (11th Cir. 2000).

65. *In re* Implementation of the Telecommunications Act of 1996: Telecommunications Carrier Use of Customer Proprietary Network Information, 13 F.C.C.R. 8061, ¶¶ 73-74 (1998) (categorizing Internet access services as "information services"); *In re* Bell Atl. Tel. Cos., 11 F.C.C.R. 6919 (1996) (categorizing Internet access service as an "enhanced service").

regulated pursuant to Title VI of the Communications Act. As indicated above, Title VI was developed in 1984 and further amended in 1992 and 1996 as a separate regulatory regime designed to address the distinct technological characteristics and other critical aspects of the cable technology platform identified in the prior court cases discussed above. Specifically, Title VI recognizes the editorial function mandated by structure of cable technology by prohibiting the imposition of common carrier requirements, while at the same time recognizing the differences between cable television and broadcast television by establishing a franchise-based regulatory regime that nonetheless limits interference in the development of cable technology. Title VI operates as an exclusive regulatory regime with respect to cable services and expressly prohibits the regulation of cable services pursuant to separate regulatory constructs applicable to other technology platforms.

The congressional approach is consistent with an understanding of past successes and failures with respect to the regulation of convergence technologies. Specifically, in specifying that new Internet services and other "enhanced" and "information" services provided over the cable television technology platform should continue to be regulated as cable services, the 1996 Act amendments exhibit the technological sensitivity compelled by the historical lessons of cable, OVS and wireless telephony regulation. Specifically, the congressional approach declines to impose a new or different legacy regulatory regime on cable Internet services simply because the service being provided is different from those the cable technology platform has traditionally delivered. Rather, the congressional approach recognizes that, in contrast to the concomitant effort to establish a separate OVS regulatory regime, the appropriate regulation for this new service should be primarily driven by the technology platform being employed. Because the technology platform in this case was a cable television platform, continued application of the specific regulatory regime established to address the particular characteristics of cable technology was both necessary and appropriate. As the OVS example teaches, creating an additional or different regulatory regime absent a technological basis for making such a regulatory distinction would have been artificial and easily undermined. Moreover, as the cable television and wireless telephony examples show, imposing a legacy regulation, which was originally created for a different technology, would have ignored critical technological distinctions, creating the risk that the

development of the new technology would be retarded and delayed. The congressional decision to address cable Internet services using the existing regulatory regime developed to accommodate and capitalize upon the specific technological characteristics of the underlying technology platform therefore is consistent with past lessons and best serves the public policy goal of fostering the deployment of new services over multiple technology platforms.

B. The Access Model Approach

The access approach to regulating cable Internet services is not as clearly defined as the congressional approach in that several different versions have been advocated in different forums. However, the essence of the access approach is the same in virtually all its forms: a government-imposed requirement that cable operators make available an "access" service to third parties which such third parties can use to provide Internet service over the cable technology platform. This requirement has its roots in two separate regulatory regimes traditionally applied to Internet services. First is the narrowband regulatory model by which Internet service providers are able to purchase business lines to accept incoming calls from subscribers using the current phone lines. Pursuant to the Title II regulations applicable to local phone companies, these lines can be purchased on a common carrier basis, allowing the Internet service provider to deliver its service to customers without the local telephone company interfering with or participating in the exchange.[66] Second are the "line sharing" requirements applicable to local phone company "digital subscriber line" ("DSL") services. DSL is a technology by which telephone networks provide high-speed access to the Internet using the existing telephone network. Pursuant to federal regulatory requirements, telephone companies are required to make DSL lines available for purchase on a common carrier basis so that Internet service providers may package DSL technology with their Internet services for sale directly to customers.[67]

The access approach seeks to impose on cable Internet services the same common carrier requirements imposed on telephone

66. Jason Oxman, The FCC and the Unregulation of the Internet (Fed. Comms. Comm'n, Working Paper No.31 (1999)) <http://www.fcc.gov/broadband/Welcome.html>; Chappelle, *supra* note 7, at 394-97 (describing the narrowband ISP regulatory model and its regulatory origins).

67. Deployment of Wireline Services Offering, 15 F.C.C.R. 385 (1999) (order on remand).

companies with respect to narrowband and DSL services. Specifically, cable operators would be required to create a separate service (commonly referred to as a "cable modem platform" or "access-only" service) that would be available to independent Internet service providers and would enable the Internet service provider to provide its service to customers without having to go through the cable operator.[68] In theory, this service would be available to any Internet service provider on a non-discriminatory basis such that, as with the narrowband model, all of the hundreds of Internet service providers would have equal opportunity to make their services available to consumers using the cable operator's network.[69]

The access approach represents a classic "service-determinative" approach to regulating cable Internet services. The requirements that embody the access approach are borrowed directly from the regulatory regimes applied to Internet services when provided over the telephony technology platform. Thus, the access approach represents the direct application of a legacy regulation to a new technology based on the service provided using that technology. Accordingly, the access approach has been justified by reference to experiences and policy determinations made in the context of the telephony technology.[70] Specifically, advocates of the access approach point to consumer comfort with the common carrier model for providing Internet access and the fact that the common carrier model facilitated the provision of Internet service through hundreds of different providers when applied to telephony technology.[71] The second and more frequent justification for the access approach is the argument for regulatory parity between cable and telephony providers of high-speed Internet services. Throughout the policy debates over cable Internet service, advocates of the access approach have invariably cited the need for regulatory parity as the most compelling justification for its application to cable Internet services. Indeed, telephony providers have been the leading advocates for the access approach, continually citing competitive concerns that cable Internet service is not required to adhere to the same regulatory rules applicable to telephony providers with respect to their DSL service.

Applying the principles derived from the historical analysis

68. Comstock, *supra* note 9, at 5 n.2.
69. *Id.*
70. *E.g.*, GAO REPORT, *supra* note 4, at 51.
71. *Id.*

conducted above, the access approach is revealed as critically flawed in several respects. First and foremost, the access approach completely disregards the distinct technological characteristics of cable television technology by applying to cable television systems a requirement that was developed for application to telephony networks. However, cable systems have a technical design and structure that is entirely distinct from telephony networks. Most notably, telephone networks employ a "star-configured" network design that enables direct communication between two separate end users over a line dedicated to that particular, separate communication.[72] It is this feature that enables telephone networks to offer dedicated communication lines to third parties on a common carrier basis without any need for the telephone network operator to exercise any control or management over the dedicated network element.[73] By contrast, modern cable technology uses a "loop" architecture in which information is received at a common headend and then distributed through shared trunk lines to individual homes.[74] Under this technology, transmission capacity is shared between services using the common trunk lines such that it is impossible to dedicate system capacity to a particular user without limiting the amount of capacity available for other purposes.[75] Thus, unlike telephony networks, cable networks have only a certain amount of capacity available at any one time, and the cable operator must exercise editorial discretion to allocate the limited system capacity among different types of programming.[76] In addition, because the transmission capacity of a cable system is shared among multiple uses, it is essential that the cable system network be controlled and managed by a single operator to ensure that one use does not interfere with or degrade the quality of the cable system's other cable service offerings to its subscribers.[77] These technological distinctions have been recognized by the Supreme Court and throughout the historic regulation of cable television as precluding application of common carrier requirements such as those imposed under the access approach.[78]

72. *E.g.*, CAMERON R. GRAHAM, FCBA/CATHOLIC UNIVERSITY CLE SEMINAR, NUTS AND BOLTS OF INTERNET LAW (2000).

73. *Id.*

74. *Id.*

75. *Id.*

76. *Id.*

77. *Id.*

78. Specifically, because Congress had "firmly rejected" the argument that

The access approach ignores the critical technological distinctions between cable television and telephony. As a result, application of the access approach to cable technology would require cable systems to essentially retool their entire networks in order to provide a form of dedicated access. While it remains an open question as to whether providing such dedicated access using current cable technology is even feasible, there is no question that it is extremely costly. Indeed, there are estimates that the additional investments necessary to facilitate such access could cost as much as three million dollars for each 100,000 subscribers.[79] Thus, even if the dedicated capacity necessary to the access approach is proven technologically feasible, the access approach will still substantially delay and retard the development of cable technology as a provider of Internet services.[80] Indeed, every cable operator faced with the prospect of complying with the access approach has been forced to forego deployment of cable Internet services in light of the technological and economic difficulties involved.

In this regard, the access approach suffers from another critical flaw seen in past attempts to employ a "service-determinative" approach to regulating new technologies. As the court in *Home Box Office* discovered, justifications for an approach when applied to a certain technology normally do not translate to a separate technology, even if that technology is providing the same service.[81] Thus, whereas the application of the access approach to narrowband Internet service has led to increased consumer choice, similar application to cable Internet service has had the opposite affect in that it has resulted in consumers being denied the choice of cable Internet service as a different technology platform for the provision of high-speed Internet services. This is true not only because the deployment of cable Internet services have been delayed in response to the imposition of the access approach, but also because the added technological costs, technical uncertainty and regulatory uncertainty created by the access approach significantly affects the

"broadcast facilities should be open on a nonselective basis to all persons wishing to talk," Columbia Broad. Sys., Inc. v. Democratic Nat'l Comm., 412 U.S. 94, 105 (1973), the Court invalidated the FCC's later efforts to impose on cable systems forced access requirements unrelated to the regulation of broadcast television. FCC v. Midwest Video Corp., 440 U.S. 689, 708-09 (1979).

79. KAGAN BROADBAND, OPEN ACCESS WON'T BE CHEAP (1999) (on file with author).

80. *Id.*

81. Home Box Office, Inc. v. FCC, 567 F.2d 9, 34 (D.C. Cir. 1977).

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incentives for investing in cable technology as a means of providing high-speed Internet service. As the *Wall Street Journal* concluded: "Broadband investment won't grind to a halt due to [the access approach], but it will affect how aggressive telecoms can be in expanding residential high-speed services. And that means most of us are stuck with poke-along Web access that much longer."[82]

Finally, the competitive concerns that have been used to justify the access approach appear to be largely illusory. As was the case with cable television and wireless telephony, the introduction of cable Internet service under the separate cable services regulatory regime has actually increased competition and consumer choice. There is no better evidence of this phenomenon than the actual reactions of telephony providers of DSL service in areas where cable Internet services are introduced. Prior to the introduction of cable Internet service in its service areas, U S WEST offered its high-speed DSL service for a monthly charge of approximately $40. Since the introduction of cable modem service, U S WEST has both increased the speed of its DSL service and lowered the monthly price to $19.95.[83] Similarly, in California, Pacific Bell cut its monthly price for DSL from $89 to $39 in the face of competition from cable Internet services. In addition to a reduction in prices, the introduction of cable Internet services pursuant to the separate cable regulatory regime has been shown to greatly accelerate the deployment of new broadband technologies in communities where such technologies were not previously offered. As FCC Chairman Kennard has summarized:

> Where cable modem service has been introduced, DSL has followed. For instance, in May 1997, @Home began offering service in San Diego; soon thereafter Pacific Bell began offering DSL. In June 1998, @Home entered Denver; that same month so did U S WEST. And just last week, Bell Atlantic—anticipating the roll-out of cable Internet access in New York City—announced that it will begin offering DSL service in the Big Apple. The competitive pattern is set and it works.[84]

82. Jason L. Riley, *Faster Web Access Coming (One Day) to a Home Near You*, WALL ST. J., July 14, 1999, at A23.

83. *US West to Provide Lower-Priced DSL Service*, MINNEAPOLIS STAR TRIB., Sept. 16, 1999, at 3D.

84. Chairman William E. Kennard, Speech Before the Federal Communication Bar Association, Northern California Chapter (July 20, 1999) <http://www.fcc.gov/Speeches/Kennard/spwek924.html>.

Accordingly, there is little evidence to support the claims that the access approach is necessary to combat competitive concerns. Thus, as in the past, the imposition of the access approach to cable Internet service in the name of "regulatory parity" would be both inappropriate and contrary to the public interest. Rather, the distinct technological characteristics of cable Internet services demands that, like cable television and wireless telephony before it, the service-determinative approach be resisted in favor of an approach that is sensitive to those technological characteristics.

V. CONCLUSION

As consumer demand for information and communications services continues to increase, it is the hope and expectation of the communications industry that businesses will develop new technologies and new ways of using existing technologies to provide such services. As these new technologies are developed and introduced, regulators will undoubtedly continue to be faced with questions regarding whether and how these new technologies fit within the regulatory framework currently established. In answering these questions, it is the regulator's primary duty to ensure that consumers receive the benefit of these new technologies and the services and features they can provide. Indeed, this is the promise of convergence: that different technologies will continue to develop their ability to provide multiple services such that consumers will be able to have true choice with respect to any service by selecting among different providers using different technology platforms. However, as the past regulation of new technologies demonstrates, this development is dependent on a regulatory approach that maintains sensitivity to technological differences and resists current tendencies to try to regulate new technologies based on the service being provided.

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